

SONY®

Character Display

CPD-1304

Operating Instructions page 2

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Owner's Record

The model and serial numbers are located at the rear. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your dealer regarding this product.

Model No. CPD-1304 Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

Dangerously high voltages are present inside the unit. Do not open the cabinet. Refer servicing to qualified personnel only.

INFORMATION

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient the receiving antenna

Relocate the equipment with respect to the receiver

Move the equipment away from the receiver

Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

A shielded interface cable SMF-523 must be used with this equipment. This apparatus complies with the Class B limits for radio noise emissions set out in Radio Interference Regulations of CANADA.

The CPD-1304 is a high resolution character display designed for use with microcomputers, or character generators having either analog or digital RGB output.

Features

- Super Fine Pitch Trinitron character display with an anti-glaring dark screen.
- An RGB terminal which allows equipment with analog RGB output to be connected.
- Compatible with the PS/2 microcomputer using the VGA.

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Precautions

On safety

- Operate the unit only on 120V AC, 60 Hz.
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for several days.
- To disconnect the AC power cord, pull it out by the plug. Never pull the cord itself.

On installation

- Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

On cleaning

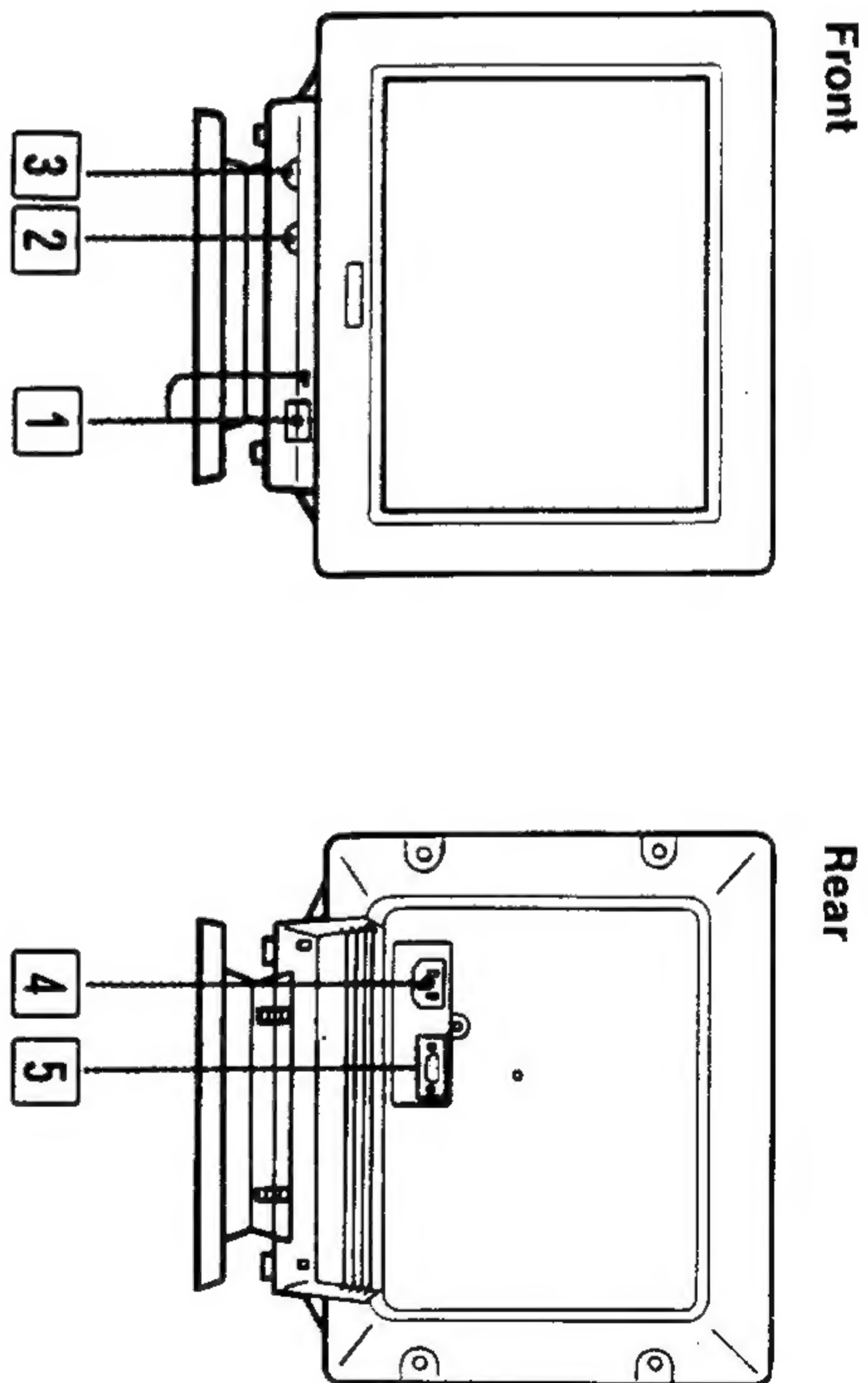
To keep the unit looking brand-new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use strong solvents such as thinner or benzine, or abrasive cleansers since these will damage the cabinet. As a safety precaution, unplug the unit before cleaning it.

On repacking

Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.

If you have any questions about this unit, contact your authorized Sony dealer.

Location and Function of Controls



1 POWER switch and indicator

To turn on the power of the unit, press this switch. The indicator will light up. To turn off the unit, press it again.

2 CONTRAST control (●)

Turn clockwise to increase contrast, or counterclockwise for less contrast.

3 BRIGHTNESS control (☀)

Turn clockwise for a brighter display, or turn counterclockwise for a darker display.

4 AC IN connector

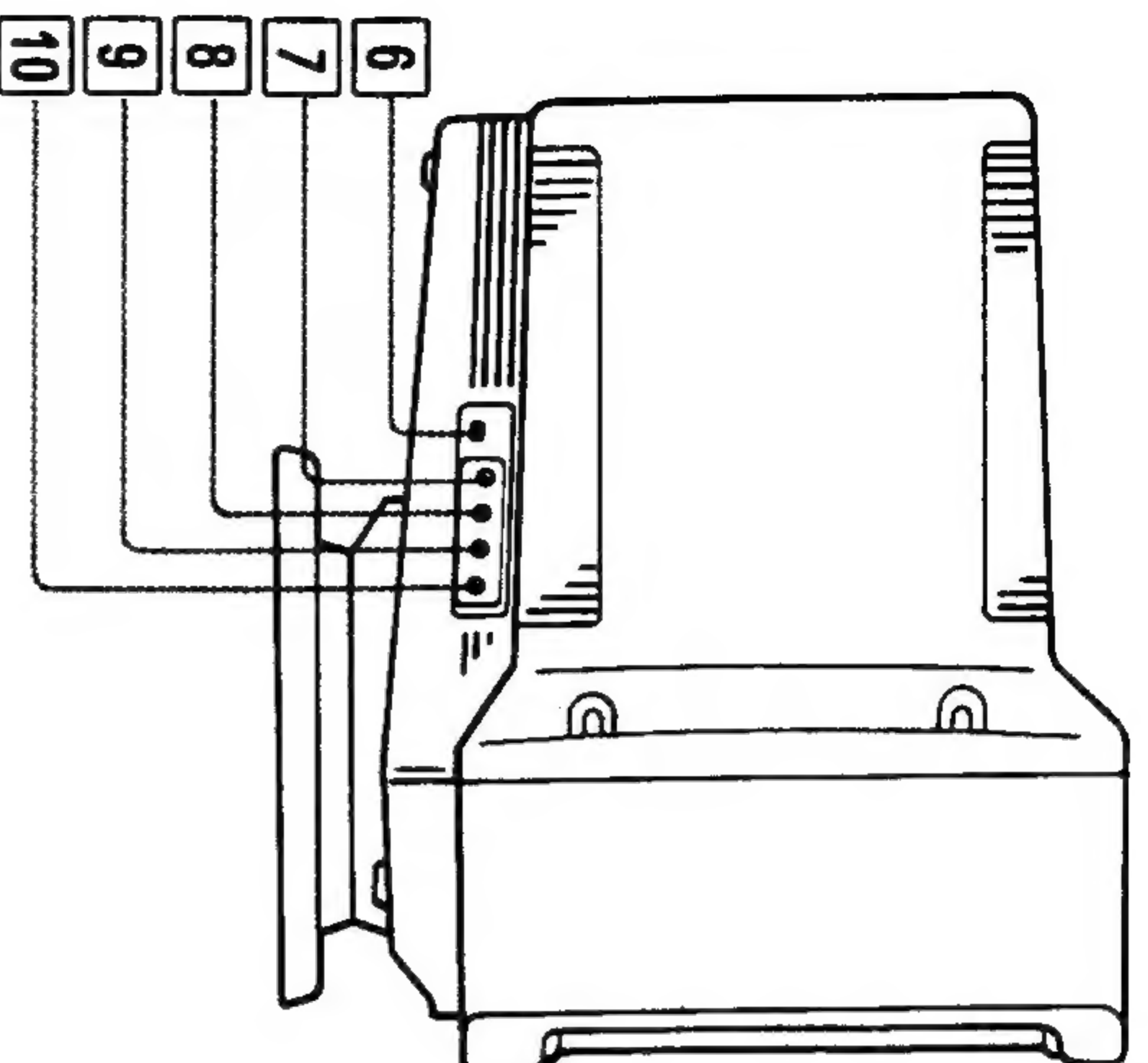
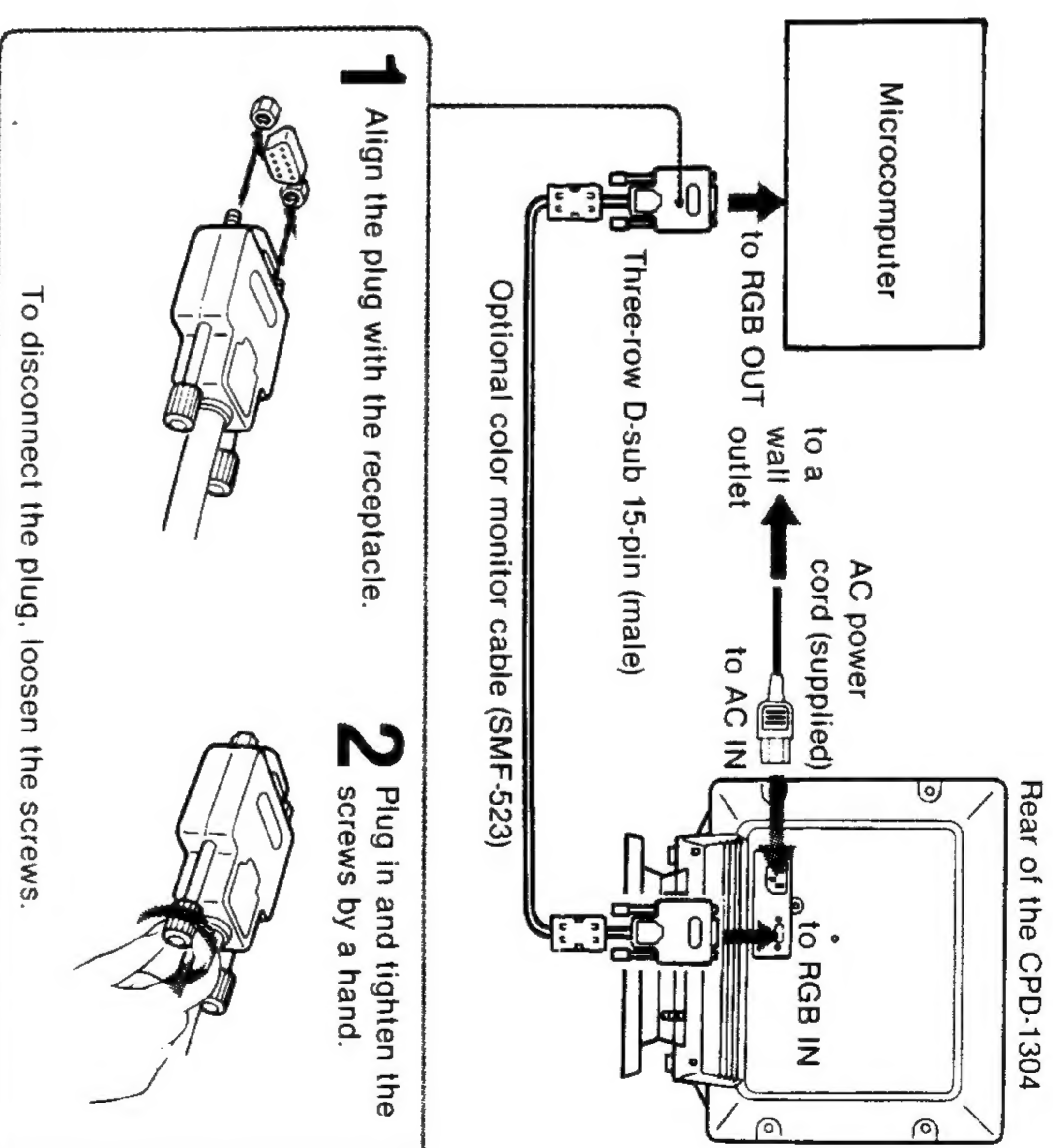
Connect to the AC outlet with the supplied AC power cord.

5 RGB IN (input) connector (9-pin D-sub)

Allows a microcomputer having analog RGB output to be connected. Refer to page 7.

Connections

Connect the power cord and the optional SMF-523 color monitor cable with a 9-pin D-sub connector. Be sure to turn the power of the unit off before making the connection.



6 AUTO SIZE switch

Depending on the microcomputer connected to the display, set this switch to the appropriate position.

LOCK: For the IBM PS/2 microcomputer using the VGA mode. When this switch is set to LOCK, the timing is automatically adjusted to the VGA mode, and the H SIZE, H SHIFT, V SIZE and V CENT controls will have no effect.

ADJ: For other microcomputers having analog RGB output. When this switch is set to ADJ, adjust the display with the H SIZE, H SHIFT, V SIZE and V CENT controls.

7 H SIZE (horizontal size) control

Turn this control to adjust the horizontal size of the display.

8 H SHIFT (horizontal shift) control

Turn this control to adjust the center of the display horizontally.

9 V SIZE (vertical size) control

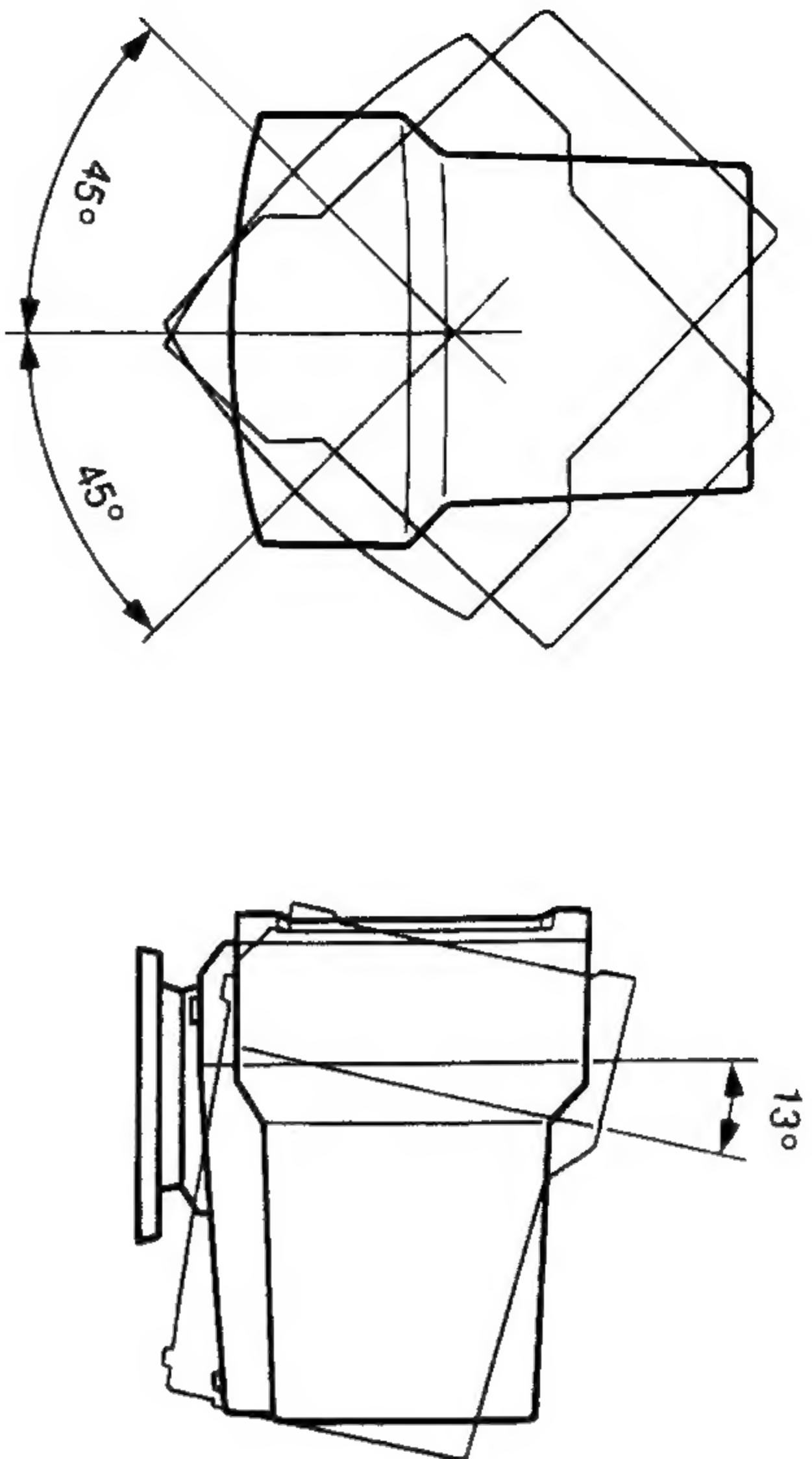
Turn this control to adjust the vertical size of the display.

10 V CENT (vertical center) control

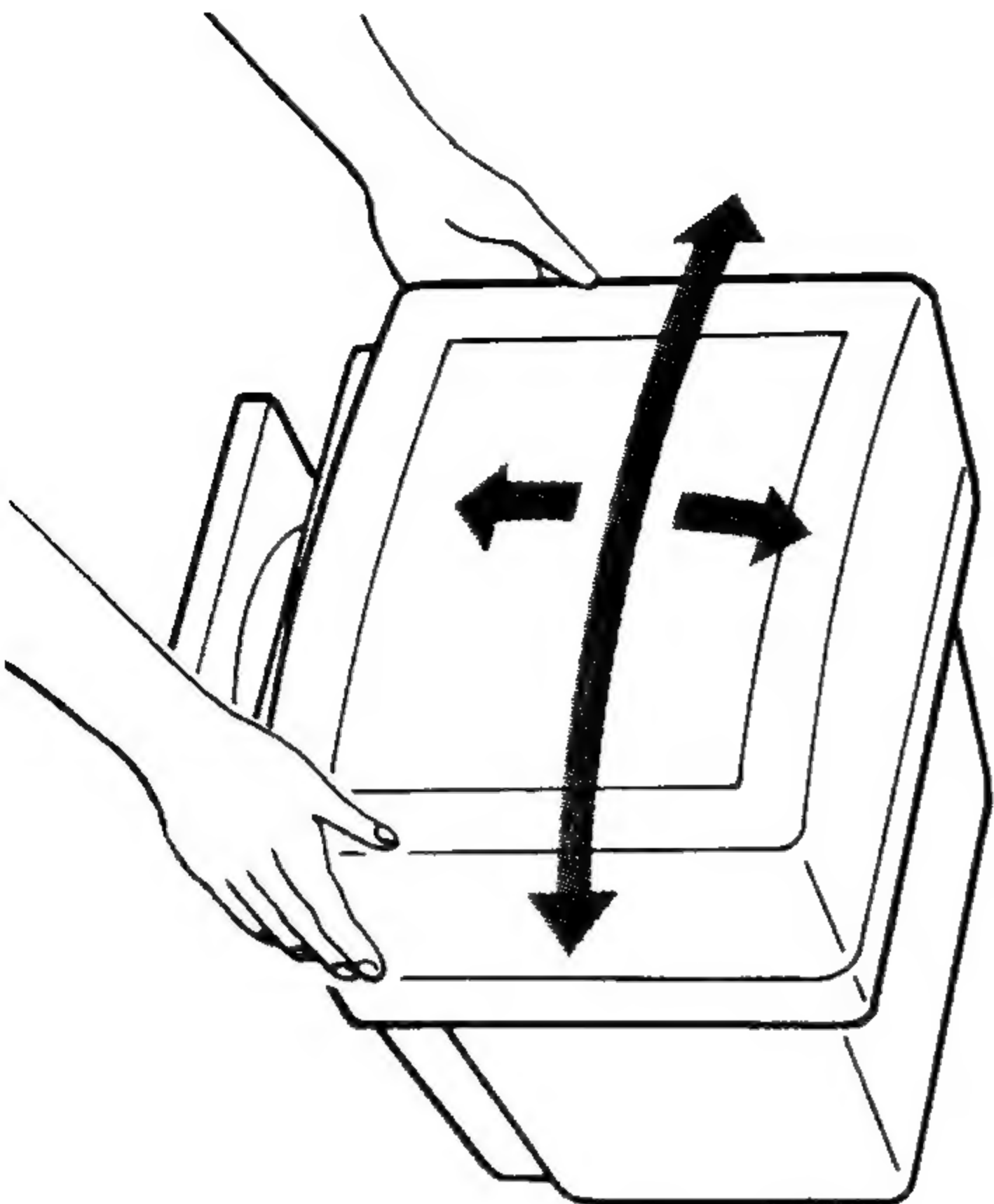
Turn this control to adjust the center of the display vertically.

Use of the Tilt-Swivel

With the tilt-swivel, this unit can be adjusted to be viewed at your desired angle within 90° horizontally and 13° vertically.



To turn the unit horizontally, hold it at its bottom with your both hands as illustrated below.



Specifications

Picture tube

Super Fine Pitch Trinitron color tube
13-inch picture tube measured diagonally
90 degree deflection

Anti-glaring dark screen

Useful screen 274mm x 207mm

Phosphor P22

Phosphor pitch 0.26mm

Viewable Pixels

1024 x 768

Scanning frequency

Vertical sync signal frequency:

50 - 87 Hz

Horizontal sync signal frequency:

28 - 50 kHz

Input connector

RGB input (D-sub 9-pin) (Analog)

Video input signal

Analog RGB positive

0.714 Vp-p/75Ω terminated

Sync input

TTL level. Polarity free.

Composite sync is acceptable at Pin # 8.

Sync on green is acceptable.

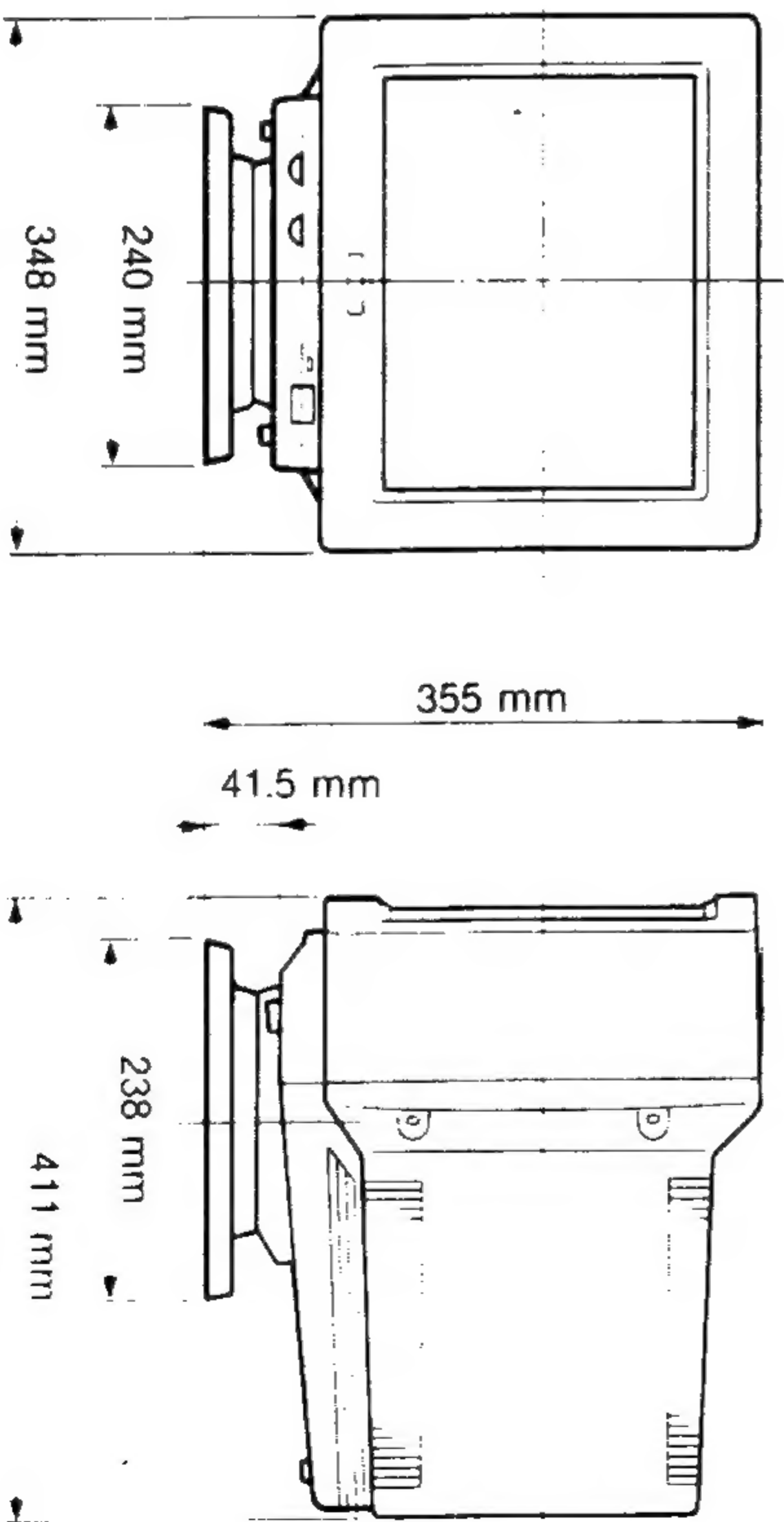
Power requirements

120V AC, 50/60 Hz

Dimensions

355(H) x 348(W) x 411(D) mm

(14 x 13³/₄ x 16¹/₈ inches)



Weight

13.1 kg (29.1 lb)
Including the tilt-swivel

Supplied accessory

AC power cord (1)

Optional accessory

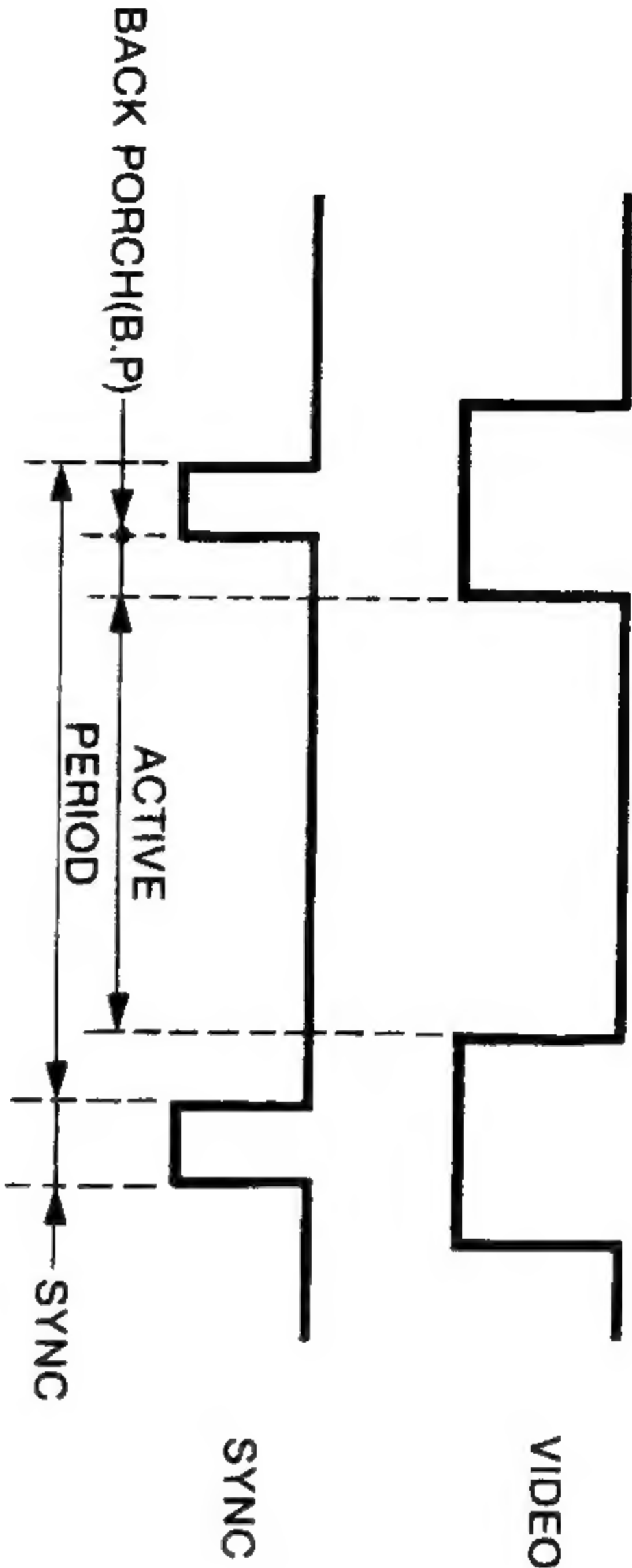
Monitor cable (9-pin ↔ 15-pin)
SMF-523

Design and specification subject to change without notice.

Timing Chart

The following timing chart shows approximate values.

MONITOR ACCEPTABLE TIMING EXAMPLE



[1] VGA

FREQ.	1			2			3		
	H (kHz)		31.47		31.47		31.47		31.47
H	V (Hz)		70.1		70.1		59.9		
	PERIOD (μs)		31.78						
	SYNC		3.81						
	B.P		1.91						
V	ACTIVE		25.42						
	PERIOD (H)		449		449		525		
	SYNC		2		2		2		
	B.P		34		59		32		
SYNC POLARITY	ACTIVE		400		350		480		
	H	NEGA		POSI		NEGA			
	V	POSI		NEGA		NEGA			
	CLOCK FREQ.	(MHz)	25.175		25.175		25.175		

[2] 1024 × 768 interlace (fh = 35.52kHz/fv = 87Hz)

FREQ.	H		V	
	(kHz)		(Hz)	
H		35.52		87.0
	PERIOD (μs)			28.15
	SYNC			3.92
	B.P			1.25
V	ACTIVE			22.81
	PERIOD (H)			408.5
	SYNC			4
	B.P			20/20.5
SYNC POLARITY	ACTIVE			384
	H	POSI		
	V	POSI		
	CLOCK FREQ.	(MHz)		44.900

[1], [2]: WHEN THE AUTO SIZE SW IS IN THE LOCKED POSITION, PICTURE SIZE IS AUTOMATICALLY ADJUSTED FOR THE ABOVE LISTED VIDEO MODES ([1], [2]). ALL SIZING CONTROLS ON THE LEFT SIDE OF THE MONITOR ARE THEREFORE INEFFECTIVE. TO ADJUST SIZING FOR OTHER VIDEO MODES, CHANGE THE SW TO ADJ AND ADJUST THE CONTROLS. THE POLARITY FREE WITH THE TIMING [1], [2] IF THE AUTO SIZE SW IS NOT USED.

[3] 35 kHz 800 × 600 non-interlace (example)

FREQ.	H		V	
	(kHz)		(Hz)	
H		35.16		56.0
	PERIOD (μs)			28.44
	SYNC			3.11
	B.P			2.67
V	DISPLAY			22.22
	PERIOD (H)			628
	SYNC			14
	B.P			7
CLOCK FREQ.	ACTIVE			600
	(MHz)			36.000

[4] 48 kHz 1024 × 768 non-interlace (example)

FREQ.	H		V	
	(kHz)		(Hz)	
H		48.19		60.0
	PERIOD (μs)			20.75
	SYNC			1.00
	B.P			2.75
V	DISPLAY			16.00
	PERIOD (H)			803
	SYNC			4
	B.P			28
CLOCK FREQ.	ACTIVE			768
	(MHz)			64.000

[3], [4]: SYNC POLARITY FREE